

09.08.2001

CLAIMS

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A1

1. An apparatus (1) for measuring a volume of a quantity of a liquid, for example, in connection with a medical diagnostic test, comprising at least one chamber (2) for receiving the liquid, which chamber (2) comprises a bottom (3) and upright side walls (4) and at least two electrodes (5) to connect to a voltage source and to a measuring system for determining the electrical impedance between the electrodes, characterized in that the electrodes are incorporated in the bottom (3) of the chamber (2), allowing the electrical impedance of the liquid itself to be determined.

15 2. An apparatus according to claim 1, characterized in that the bottom (3) of the chamber (2) is substantially formed by a glass substrate (9).

20 3. An apparatus according to claim 2, characterized in that the electrodes (5) are provided on the glass substrate (9), and are embedded in an insulation layer (10) provided on the glass substrate (9).

25 4. An apparatus according to the claim 3, characterized in that the upright side walls (4) are formed by etching insulation material provided on the insulation layer (10).

5. An apparatus according to claim 1, characterized in that the bottom (3) of the chamber (2) is substantially formed by a silicon wafer (6).

30 6. An apparatus according to claim 5, characterized in that the silicon wafer (6) is provided with a first insulation layer (7), preferably of SiO_2 .

35 7. An apparatus according to claim 6, characterized in that the electrodes (5) are provided on the first insulation layer (7) of the silicon wafer (6) and are embedded in a second insulation layer (8), preferably Si_xN_y , which is provided on the first insulation layer (7).

8. An apparatus according to claim 7, characterized in that the upright side walls (4) are formed by

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etching insulation material provided on the second insulation layer (8).

9. An apparatus according to one of the preceding claims, characterized in that the volume of chamber (2) is 5 maximally 2 nanolitres.

10. An apparatus according to any one of the claims 1-9, characterized in that the same comprises a plurality of chambers (2) arranged in an array.

11. An apparatus for measuring a quantity of liquid according to one of the preceding claims, characterized in that it is connected to an alternating voltage source having a frequency of at least approximately 15 kHz.

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